Renewable energies in the German state of North Rhine-Westphalia - Supporting local businesses

Carl-Georg Buquoy, Head of Photovoltaic, EnergyAgency.NRW
Agenda

- Energy State North Rhine-Westphalia
- The EnergyAgency.NRW
- Network Activities
North Rhine-Westphalia –

The European Centre of the Energy Sector

- 17.8 million inhabitants
- 34,000 km² in area
- GDP: 599.8 billion € (Germany No. 1, worldwide No.19)
- 150 million consumer within a radius of 500 km

Energy sector in NRW (2013)

- 28% of German electricity production (175.2 TWh)
- 24% of German electricity consumption (144.7 TWh)
- 43,760 MW_{el} installed power generation capacity
- No nuclear energy
- 9.1 % of electricity generation from renewable energies (15.9 TWh, doubled since 2005)
- 200,000 employees in energy sector (of whom 26,100 are in the area of renewable energies)

→ The “Energy Region No. 1” in Europe

Source: EnergieDaten.NRW 2014
Electricity Generation by Source 2013

NRW
- Total: 175.1 TWh
  - Hard Coal: 47%
  - Lignite: 9%
  - Gas / Oil: 5%
  - Nuclear: 30%
  - Renewables: 9%
  - Other: 4%

Germany
- Total: 632.1 TWh
  - Hard Coal: 26%
  - Lignite: 4%
  - Gas / Oil: 19%
  - Nuclear: 15%
  - Renewables: 12%
  - Other: 9%

Source: EnergieDaten.NRW 2014
Renewable Power and Heat Generation in NRW 2013

Renewable Power Generation
- Wind Power: 6%
- Biomass: 22%
- Photovoltaics: 4%
- Hydro Power: 31%
- Mine Gas: 37%

Total: 15.9 TWh

Renewable Heat Generation
- Biomass solid: 50%
- Biogas: 11%
- Other Biomass: 5%
- Solar heating: 24%
- Near-surface geothermal Energy: 10%

Total: 12.5 TWh

Source: EnergieDaten.NRW 2014
Renewable Energies in NRW

Jobs (Thousand of jobs)

- 2007: 20
- 2009: 25
- 2011: 28
- 2013*: 27

Revenue (EUR bn)

- 2007: 5
- 2009: 6.5
- 2011: 9.2
- 2013*: 8.6

Source: EnergieDaten.NRW 2014, * preliminary
Photovoltaic in NRW

New installed Capacity in 2014: ca. 204 MWp
Total installed capacity: 4.200 MWp
Total number of installed plants: 220,000
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EnergyAgency.NRW - Partner for Technology Transfer & Networking

Companies, Municipalities, Institutions

Government of NRW

Universities, Research Institutes
EnergyAgency.NRW: Activities

- **Network and cluster management:** cluster EnergyRegion.NRW, cluster EnergyResearch.NRW (16 Networks)

- **Energy consulting** for SMEs and municipalities on all matters of climate protection and energy (initial advice free of charge)

- **Continuous training** for companies, federations, institutes, local authorities and end consumers (60 training concepts, e-learning platform)

- **Mediation and advisory services** for general public, local authorities and investors

- **Marketing activities and public relations** (2012: 66 conferences, 16 trade fair participations, 4 marketing campaigns)

- **Foreign trade activities**
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Network Activities

- **Network Photovoltaic:**
  - Partner in the market field,
  - Support of the ministry of environment e.g. in PV-strategy
  - Initiate new projects e.g. multi-family-houses
  - Setting up “evening meetings” to discuss common activities to inform the target group
  - Attract foreign markets
Network Activities

- **Market Initiative Photovoltaic and Heat Pump:**
  - Supporting companies in their marketing activities
  - Organize local fairs, meetings
  - Set up information for the partners
  - Being with a stand in a shopping mall, giving the partners/companies the chance to receive calls
  - Setting up brochures
  - Support by creating and setting up a better image and trust in the Photovoltaic
Network Activities

- **Network Fuel Cell and Hydrogen (H₂):**
  - Further development of FC and H₂-Technologie
  - Consolidation of NRW as an int. recognized Location for FC and H₂
  - Support of the ministry of environment
  - Initiate new projects
  - Support of introduction of new products in the market
Network Activities

- Citizen-owned installations: driver of the energy transition
  - Boom: since 2006 over 800 new energy cooperatives (coops)
  - Citizens are financially involved in almost every second installed capacity
  → democratic/decentralized movement

Ownership of Renewables in Germany

- Energy providers: 9,144 (12.5%)
- Institutional and strategic investors: 30,230 (41.5%)
- Citizens and coops: 33,532 (46.6%)
- Individual owner: 18,362 (25.2%)
- Citizen energy coops: 6,687 (9.2%)
- Citizen as minority shareholders: 8,483 (11.6%)

Total installed capacity: 72.9 GW

Source: Trend Research/Leuphana 2013
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